

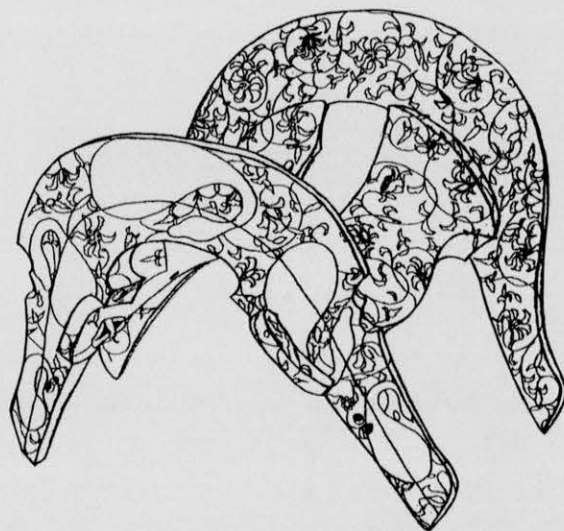
蒔絵平文鞍（ケルン東洋美術館蔵）〔修理報告〕

図書名	在外日本古美術品保存修復協力事業：修理報告書 ：工芸品／絵画[平成11年度実施事業]：Project for Conservation of Works of Japanese Art in Foreign Collections
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蒔絵平文鞍

平成10年度修復事業



品名：蒔絵平文鞍（江戸時代、慶長18年〈1613〉）

所蔵：ケルン東洋美術館 ドイツ

品質構造：木製漆塗、蒔絵・螺鈿・平文

所蔵番号：E11.2

請負者 目白漆芸文化財研究所

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蒔絵平文鞍



23 瓢箪蒔絵螺鈿鞍 (修復後)
"Hyotan Makie Raden Saddle" (after restoration)



24 瓢箪蒔絵螺鈿鞍 (修復前)
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25 瓢箪時絵螺鈿鞍部分 (修復後)
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はじめに

現在、外務省、文化庁が進めている在外日本古美術品保存修復協力事業は平成9年から日本絵画だけでなく漆工品にまで協力分野が広がり、現在までに数点の資料が保存修復されてきました。この事業のうち、平成9年度、10年度の2ケ年に亘って私が担当したドイツ・ケルン東洋美術館所蔵「瓢箪蒔絵平文鞍」^{図1}一背の保存修理（於：東京国立博物館内目白漆芸文化財研究所修理室）について報告いたします。

初めに、「瓢箪蒔絵平文鞍」の概要にふれるとともに、修復前の保存状態とその特徴を項目でまとめます。次に、修理方針と修理仕様を示し、実際におこなった修理内容を説明します。最後に、和鞍と紀年銘の問題点、輸出された漆器と修復について言及したいと思います。

概要

「瓢箪蒔絵平文鞍」(図23)は木製黒漆塗の鞍で、全面に鮑の中厚貝による螺鈿と金銀の平文で牡丹唐草紋と唐花を配し、螺鈿の際に金の蒔絵線で縁取りしています。前輪と後輪の外面には首の部分を捻った瓢箪がそれぞれ五個づつ薄肉高蒔絵で描かれ、金の瓢箪と銀の瓢箪を交互に配している。前後輪と居木は麻紐^{図2}でしっかりと結ばれていました。鞍橋の裏側馬首（前輪）に向かって左居木裏に慶長十八癸丑 六月 一日の銘、右側に花押と焼き印があります。(図24、230、231)

牡丹唐草は写実的な要素が強く、文様の随所にその特徴が見られます。蔓茎には茎同士が交差している箇所があり、分岐する箇所には丸に双葉の文様を付けています。蔓茎の巻き込んだ先には牡丹の花、蔓先には葉と蕾を付け、花は杏仁形の花心に6弁の花びらを対称に置き、付け根には扇形の萼があります。唐花は中央に7つの丸紋を置き、六枚の捻った花卉を付けています。

鞍橋は前輪、後輪の表面に海と磯の区別のある形式で、前輪には手形を設け、形状の特徴から室町期以降に登場する水干鞍の流れを汲む形式であり、幕末まで続いた近世汎用鞍の典型的な姿を示していると言えます。鞍橋は制作年代によっていくつかの特徴に別れますが、特に顕著に現れるのが、側面から観察したときの後輪の山形から爪先にいたる湾曲です。この鞍の後輪は肩から爪先にかけての湾曲が浅く、立体感のない形状で、素地の厚みも薄いのが特徴です。また、両輪ともに山形の形は柔らかく、爪先が丸みを帯びています。鎌倉時代、室町時代の実際に軍用に使われた鞍と比較すると全体が華奢であり、居木幅も狭く、激しい使用には適さないと言えます。この形式の鞍は、もっぱら水干^{図4}の様な略儀の服装をしたときに使用した鞍という意味で「水干鞍」と名付けられています。

保存状態

搬入された時点での保存状態は、埃や汚れが付着、漆塗膜の劣化、割れや亀裂、剥離や剥落、打損や虫害など通常漆芸品の傷みで観察される状態は全て認められました。図232は前輪と居木の接合部分で、全般的な傷みの現状をよく表しています。他の鞍の素地の傷みでも見られますが、居木の接合部分付近の素地が欠け、すでに欠失していました。手形部分には打損があり、下地が露出。塗膜は劣化によって細かい段紋が入ることで艶を失い、上塗漆の透けが進行し、居木の緑の部分では下地が透けて見える状態になっていました。また、塗膜表面には傷

が入り、白色の汚れ付着していました。螺鈿と平文は剥離が全体に進行するとともに、平文は銹化によって崩れ、その多くはすでに剥落していました(図233)。ドイツで制作された輸送のための保存箱で搬入されましたが、梱包材の両輪の爪先部分に螺鈿の剥落片が4片、平文の剥落片が大きいもので5片認められました。

前輪中央の瓢箪の蒔絵は擦れによってすでに剥落し、漆層が露出していました。居木先等の各所に後世修理^{註5}の下地が螺鈿の表面に被り、下の文様さえもわからない状態にありました。

牡丹唐草の文様の一部を拡大すると平文が崩れ、周囲の塗膜にも錆が及んでいるのがよくわかります。また、螺鈿は斑の部分から割れ、剥離していました。(図233)

この鞍の傷みの特徴を大きく分けると次の3点になるかと考えられます。

①素地の収縮、貝や接着素材の劣化によって螺鈿がほぼ全面に亘り剥離していました。剥離の場所によっては貝が漆塗膜面よりも突出してしまっていた部分もあり、非常に不安定な状態でした。

②平文の傷みが著しく、そのほとんどが剥落し、欠失していました。銀の平文は剥離し浮き上がるとともに、銹化によって崩れ、非常に危険な状態でした。金の平文は剥離するとともに波うっていました。

③後世修理による塗りや下地が各所に入るとともに蒔絵の上や貝の上にまで斑に被っていました。特に、両輪の爪先を中心に下地が厚く被り、螺鈿と平文の上に厚く残っていました。また、螺鈿の一部がワックスによって直されていました。

修理仕様

修理方針は所蔵館、文化庁、東京国立文化財研究所、修復担当者との協議で決定、指定文化財の修復と同様に考え、現状維持と保存を目的に行いました。修理に際しては鞍に使用されている材料と出来るかぎり同質の素材を使用することが必要と考え、修理に先立ち、鞍の素地、下地、塗り、螺鈿、平文、蒔絵の各部分からそれぞれの素材と技法を調査しました。それぞれの素材の傷みの特徴を把握し、修理工程を決定しました。具体的に概要を列記すると次のようになります。

- ・鞍紐^{註8}はいったん取りはずし、前輪、後輪、左右居木にわけそれぞれの修理を進め、修復後に新しい紐で鞍組みしました。
- ・すでに欠失した螺鈿と平文の復元は行わず、素地の欠損部分は形態のみを復元しました。
- ・後世修理のうち漆塗りはそのままとし、ワックスは除去しました。表面に付着した下地は除去しましたが、塗膜や蒔絵の劣化を考慮に入れ、過度な除去作業は避けました。

技法分析

修理にあたって修理材料をどう選択してゆくのかというのは非常に重要な問題であります。場合によって異なりますが、修理する資料に使われている素材と出来るかぎり同様のものを選んで使用するべきと考えています。その理由は、一つには本来の材料と異なるものを用いたときに起こる表現の変化です。たとえば膠で接着されていた貝を漆で修理すれば半透明な貝の裏に漆がまわるため本来白っぽい貝が青い貝になってしまう事になります。二つ目には技法の歴史的意義を覆い隠してしまうことです。技法にも歴史的変遷があると捉えたときに、事実に変更を加えてしまうことになりかねないということです。しかし、一方では制作するのと修

理するのとではその技法が異なるため、可能な場合とそうでない場合があることは事実といえます。とにかく、修理時に技法を分析し、記録に留めるとともにその結果を修復に生かしてゆくことは非常に大事な事と言えます。

修理前に鞍の下層から上層に向かって各部分の素材と材料を調査しました。両輪の素地は桜材の股本を使用、股本は木が枝分かれている部分の形状を生かして造られたものです。居木は軽く柔軟性のある木地を使っています。布着せは露出した部分から両輪の馬膚や接合部を除く全面に粘着性のある漆で麻が貼り込まれ、拡大すると繊維の間に漆が絡んでいるのが分かります。前輪と居木の接合部で鞍の使用によって傷んだ部分には布着せから上塗りまでがよく観察できます。布着せの上に粗い漆下地と細い漆下地を3回程度行い、いったん漆で塗り込み、さらに細い漆下地をし、透き漆で中塗り上塗りをしているのが分かります。(図234)

貝が剥落した部分には砥石などでいったん研いだ下層の下地の上に直接筆を使って朱漆で描いた図様が見られます。その上に直接、貝が貼られているのが分かります。貝の接着素材は漆以外の材料を使っており、膠あるいは澱粉質の糊が使用されたと考えられます(図235)。朱漆線は他の部分にも観察されますが、場所によってはいったん描かれた図様が変更されている箇所があります。螺鈿に使用される貝は数種類あり、日本では夜光貝と鮑貝が一般的です。図233を見ると、光を当てたときの色が強く、反射する部分としない部分が縞状になることから、鮑を使っているのがわかります。原貝から貝を取る方法には摺り貝と煮貝の2種類があります。摺り貝は貝をノコで切り取り、砥石で摺り下ろしていく方法で、煮貝は切り取った貝を海水で長時間煮て剥がす方法です。煮貝では貝の真珠層で剥がすため、斑は出来ません。このことから、この鞍の螺鈿は鮑貝を砥石で摺り下ろした摺り貝で、計測から0.2mm前後の中厚貝が使用されていることが分かります。貝は貼り込まれてから砥石で表面を研がれているため、実際はもう少し厚い貝が使用されていると考えられます。螺鈿は基本的に割り貝を使用せずに文様ごとに一枚の貝を切って繋いでおり、蔓先の葉と蕾に枝分かれますY字状の部分では幅が1mm程度にも関わらず、丁寧に1枚の貝で切り抜かれています。例外ではありますが、居木の縁のアールが強い部分では1枚の貝を割って貼り付けています。

居木の表面は鞍が使われることで擦れ、塗りが薄くなるとともに貝の周囲が露出しています。貝の際に漆が溜まっている事から、貝を貼った後に漆をいったん塗り込んでいることが分かります。貝の段差を埋めるため漆下地をし、貝と一緒に平面に下地を研ぎ、透き漆で塗り込んでいます。(図238)

平文は貝の段差を埋めた漆下地を研ぎ付けた面に墨書で文様を描き、貼り付けています。初めに全体に描いた朱漆の線は貝の段差を埋めた下地で半数以上は隠れて見えなくなると考えられ、改めて文様を描く必要があったものと考えられます。銀平文は銹化によって膨らんでいるため、正確な厚みは計測できませんが、金平文の厚みが0.04mmであることから、銀も金と同様の厚みと考える事が出来ます(図239)。剥落部分から接着素材を拡大すると白色の粒子が観察され、他の部分から刷毛などで延ばしたような線が見られることから澱粉質の材料を延ばして接着したものと考えました。全体に塗り込んだ中塗りと上塗りの透き漆は磨いて仕上げますが、貝の上に被った漆は竹製の筥などのを使って剥がします。瓢箪の蒔絵は透き漆でいったん肉上げし、乾燥後薄く漆を塗り、蒔絵粉を蒔いて仕上げています。下付け漆は金の部分が弁柄と漆を混ぜた絵漆、銀の部分は透き漆が使われています。蒔絵粉を拡大すると、金の瓢箪は4号を中心とした金粉のみで蒔いていますが、銀の瓢箪は銀粉と銀粉の両方が蒔かれているのが分か

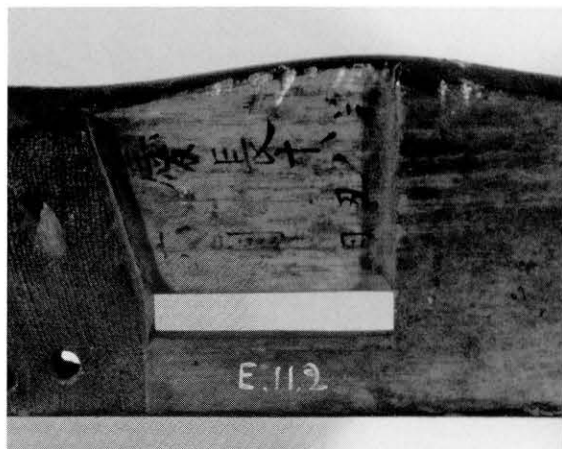


図230 居木裏の紀年銘（修理前）
Inscription of the year of production
(before restoration)



図233 螺鈿と平文の保存状態
Raden and silver hyomon before restoration



図231 居木裏の花押と焼き印（修理前）
*Kao and brand on the inner side of the seat
board (before restoration)*



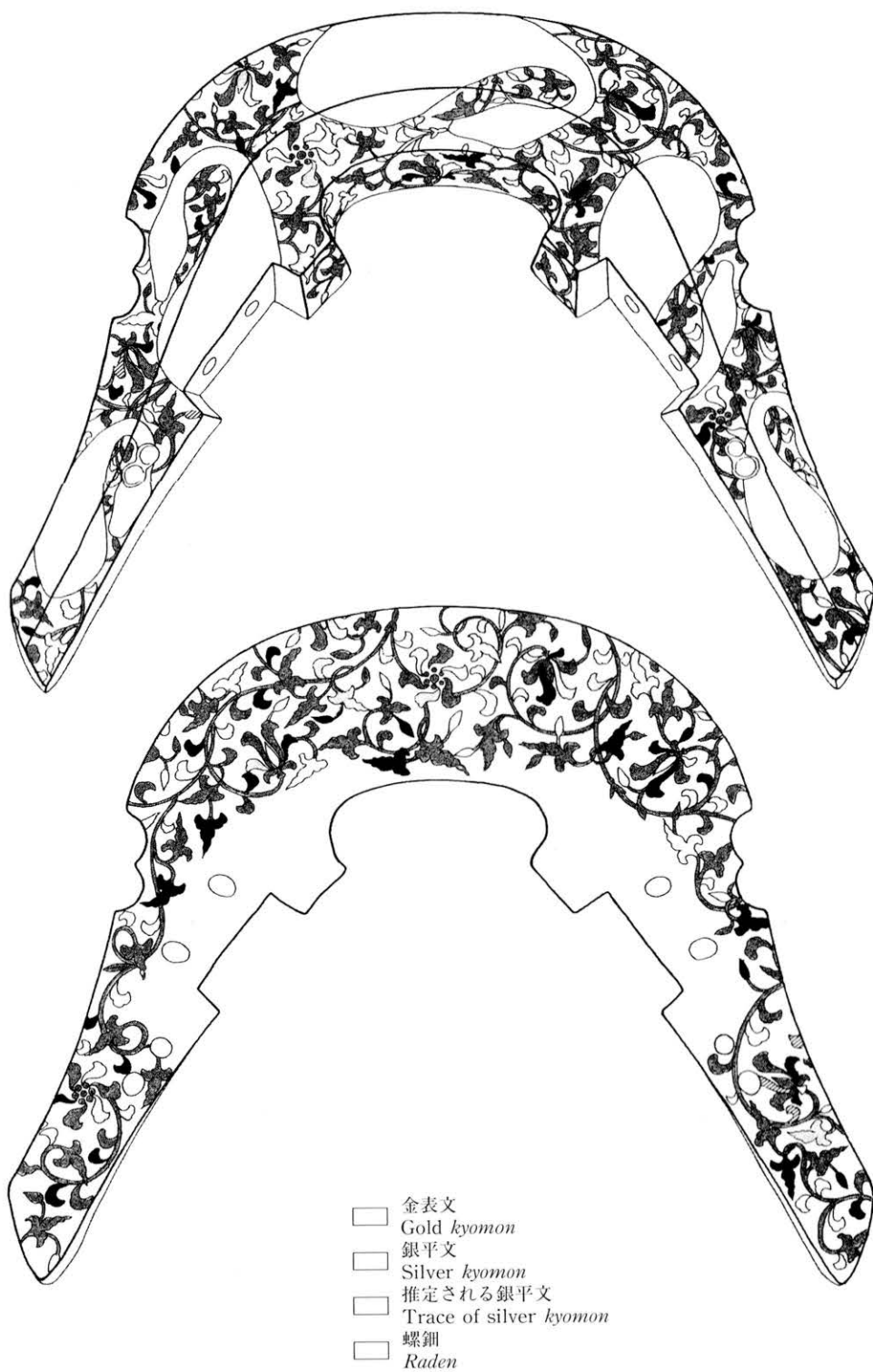
図234 下地と塗りの露出 前輪内側
Foundation and urushi coating
(inner side of the saddlebow)



図232 前輪と右居木の保存状態
Inner side of the saddlebow and the right seat
board before restoration



図235 螺鈿下の朱漆線
*Shu urushi outlines under the raden (peony-arabesque
pattern on the outer side of the saddlebow)*



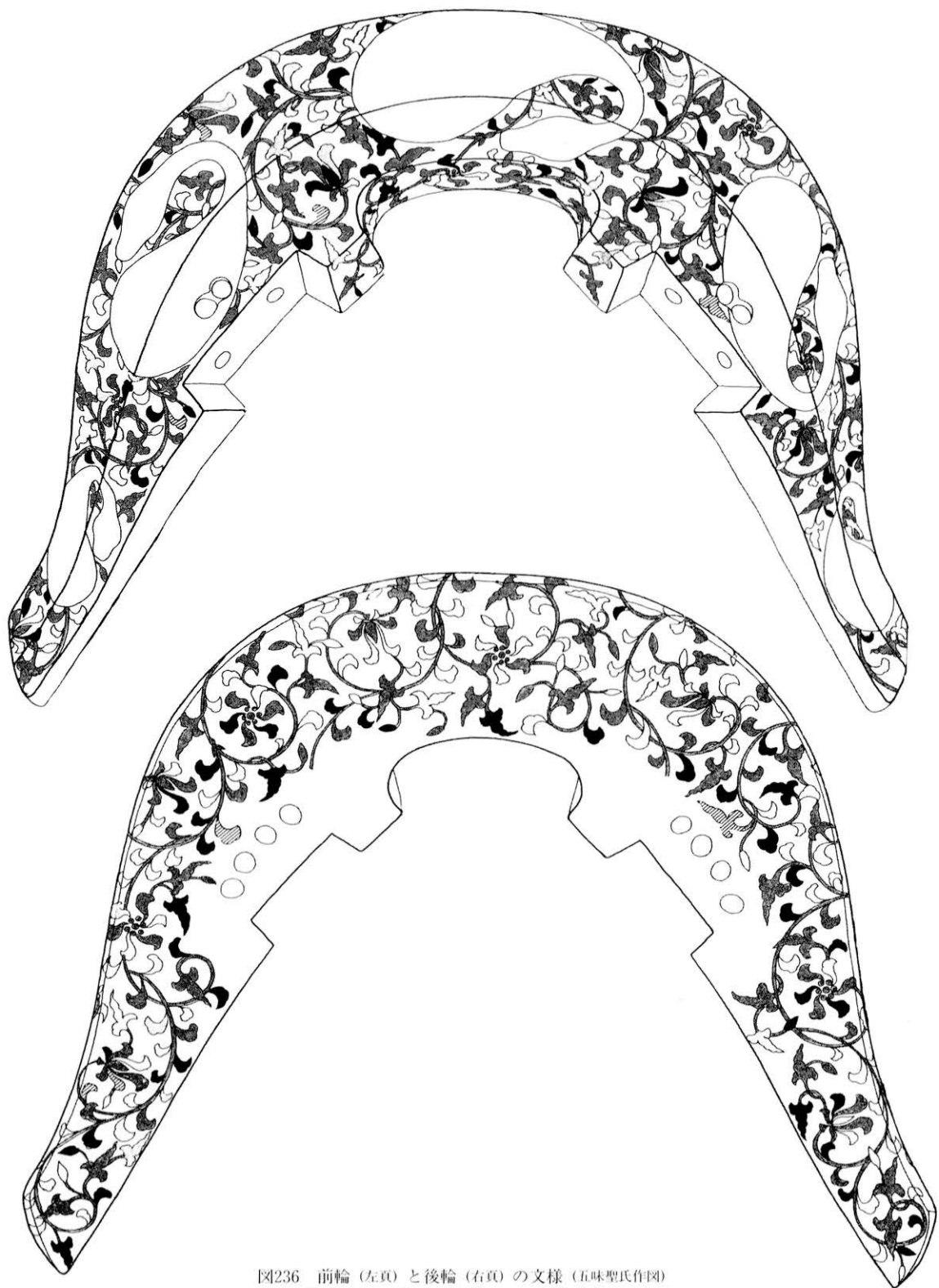


図236 前輪 (左頁) と後輪 (右頁) の文様 (五味聖氏作図)
Designs on the saddlebow and hind bow
(with the cooperation of Gomi Hikaru)



図237 居木の文様
Designs on the seat board

ります。銀粉は銹化によって形状が崩れ大きさははっきりしませんが、5号粉を中心に金粉が混ぜられていることが分かります。このことから、銀の瓢箪は当初単純な銀色ではなく、より写実的な淡いページュ色をしていたと想像できます。螺鈿の際の金線は瓢箪部分よりも絵漆の顔料の込みが多く、粉も少々粗い、これは貝との段差を埋めるためと考えられます。

これまでの調査を元に素地から蒔絵までの状態を図で表してみました(図254)。各層の成り立ちがよく分かると思います。三角の印がついたところが剝離が認められる部分で、修理は上の層から順次素材の補強や剝落止めを行っていきました。

修理の実際

修理は初めに、養生を行いました。螺鈿や平文の剝落の危険のある箇所³¹⁴に雁皮紙の小片を澱粉糊で貼り、作業中に剝落しないようにしました。次に、鞍を裏返し鞍橋を解体しました。鞍は使われて鞍組みが緩めば新しい紐で締め直すと考えられており、鞍組みと紐は当初のものではないとの文化庁担当官の意見から、修理作業に当たっては紐をいったん取り外すことにしました。しっかり組まれた紐を外すことは困難ですが、単純に紐を切って外すのではなく、紐組みの方法を記録に留めたいとの思いから最後の結ばれた部分から順に慎重に外していきました(図241)。そして、その記録が正しいかどうかを確認するため、手板を作成しました。紐組みの表側は周囲に3重に紐が通っていますが、裏側は結ばれる方向に6重に通っていることが分か

りました。また、居木裏の紐を外した部分にはいくつものへこみがあり、箆を使って締め込んでいったものと考えられます。解体した居木と両輪⁴¹⁵の接合部分には長年の汚れや埃が溜まっていた。また、両輪の居木との接合部にも花押と焼き印が認められました。

埃や汚れを毛棒で払った後、クリーニングを行いました。洗いざらしの綿布に少量の水分を含ませ、銹化によって崩れ、剥離している銀の平文や螺鈿に触れないように注意して漆塗膜の表面に付着した汚れを取り去りました。次に、劣化によって細い段文が出来た漆塗膜を補強するため、漆固め⁴¹⁶を行いました。使用する漆は上塗りが透き漆であることを考慮に入れ、日本産の透き漆を中心に日本産の生漆（生正味漆）を混ぜ合わせて、石油系の溶剤を使って希釈し、表面に薄く含ませた後、リグロインを使って段文以外の余分な漆を完全に拭き取りました。また、劣化によって脱落しやすくなっている蒔絵粉を補強するため、塗膜と同様の方法を使って漆固めを行い、十分に乾燥させました。

平文は澱粉質の材料で接着されており、同様の材料を使って修理をする事が望ましいと考えましたが、剥離している部分から澱粉糊を含浸することは作業上不可能であり、他の材料を選択せざるをえませんでした。修理には膠あるいは漆が考えられますが、膠は含浸して拭き取る際に水分を使用し、何度も拭き取らなければならない点と、銀平文の状態から抑えた後でも空隙が残ることを考え、麦漆を使って平文の圧着を行いました。麦漆は日本産の小麦粉を耳たぶの堅さに水練りし、生上味漆を適量合わせよく練り、いったん乾燥を促進させた後、リグロインで希釈、剥離した部分から含浸し、平文の上の余分な漆は完全に拭き取りました。浮き上がった部分にサランラップ、ビニール板、プラスチック板を置き、しんばり台（木枠）としんばり棒（木あるいは竹製のヒゴ）を使ってポイントごとに圧力を加えて抑えてゆきました（図243）。金の平文も同様に抑えますが、素地から浮き上がり平文が余っている状態であったため、先を平坦に加工した針を使って平文を部分的にはずし、銀の平文と同様の方法を使って圧着しました。（図244）

螺鈿の接着に漆が使われていないことを考慮に入れ、貝の剥落止めには膠を使用しました。⁴¹⁷膠は牛から作った接着力のある粒膠を選びました。膠はまず水に一晩置いた後、湯煎します。接着に適度の濃度に調節した膠に少量のエタノールを加えて含浸し、余分な膠をぬるま湯で拭き取り、平文と同じ方法を使って抑えました。貝が素地の収縮で突出し、周囲の塗膜とともに剥離していた部分はビニールシートを貝の形状に切り抜き、塗膜部分をいったん膠で安定させた後に貝を抑えました。（図245）鞍は形状が複雑であることと抑えるときに圧力がかかるためスチロール板を保護材として使用し、鞍の全面に及んだ貝の剥離を抑えました。（図246）

貝が安定したところで、漆塗膜や高蒔絵の剥離部分に接着用に調節した麦漆を筆や竹箆を使って含浸し、抑えました（図247、248）。貝の際の金線部分にも同様の麦漆を使って安定させました。次に、搬入時の梱包材の中に落ちていた平文と螺鈿の位置を照合し、接着しました。平文は崩れていましたが、断片のいくつかが同一の平文から剥離したものであることが分かりました。素地が欠けていた部分には麦漆に麻粉と松の木粉を入れた刻苧を充填し、水練りした黄砥粉に蠟色漆を加えた黒錆を付け、漆固めをして仕上げました。そして、剥離していた塗膜の際に僅かな黒錆を付け、再び剥落するのを予防しました。

鞍の各所に被っていた後世修理の下地は初め取り除くかどうか迷いましたが、本来の塗膜や螺鈿の上に被り、文様がつぶれて見えなくなっている部分もあることから、除去することにしました。しかし、塗膜と螺鈿はともに劣化が進行し、危険な状態であるため適度に取り除くに

留めました。修理の下地は漆下地で強く、水やぬるま湯を含ませた程度では緩まないため、先を丸めて切れなくした彫刻刀を使って薄皮を剥ぐように取り去りました。除去後には後世修理の下にあった螺鈿や蒔絵の図様を本来の姿に戻すことが出来ました。最後に塗膜部分にもう一度漆固めを行いました。(図250、図251)

鞍組みの紐は資料を傷めないことを最優先し、麻紐ではなく革紐を選択、実際の作業は武器武具修復の専門家である小澤正實氏にお願いしました。皮は鹿皮の背の中央部分を縦に切り、紺色に染色して使い、部分的に生麤糊⁴¹¹⁹で固定し、全体の修理作業を終了しました。(図25、26、252)

その他の分析

搬入時に付属した平文の蛍光X線分析⁴¹²⁰を鞍の修理と平行して行いました。分析は東京国立文化財研究所の早川泰弘氏に依頼しました。剥落片のいちばん錆が進行していなかった裏側(接着面)の一部分を分析した結果、錆びた銀色の平文はその中に銀と銅が含まれ、そのほとんどが銀であることが分かりました。

X線透過写真撮影は東京国立文化財研究所の野久保昌良氏に撮影していただきました。その写真から漆が塗られている部分は全体に布着せが貼り込まれているのが分かりました。また、X線透過写真に写った金の平文と銀の平文の位置を実際の鞍と比較したところ、ほんの僅かな大きさの金平文が蒔絵線の下に隠れているのが分かりました(図253)。これは、金の平文が剥離し、ちぎれるようにして剥落したとき、平文の一部が蒔絵線の下に残ったものと思われる。また、すでに剥落してしまい平文が残っていない部分では、周囲の塗膜に銀の錆が付着している部分は銀平文であることが確認出来ました。平文と螺鈿は接着された下地面が異なることを基準に分類しました。その調査を元に作図し、色分けを行いました。その結果、金の平文が前輪の内側ではかなり接近して貼られていることが分かり、鞍全体も同様に金平文が多く使用された華やかな鞍であったことが想像できます。

全体の文様を図に起こしたところで、牡丹唐草文の流れを確認しました。前輪外側は瓢箪の陰から出発した蔓が左巻き右巻きを繰り返して足先に向かい、爪先面を巻いて内側に繋がっているのが分かりました。また、内側の中央左右で分かれた蔓が居木の外側に向かって伸び、後輪内側から同様に分かれた蔓が居木の内側に向かい、中央付近で斜めに交差しているのが分かりました。前輪の瓢箪が海と磯部分だけに限らず厚み部分まで及んでデザインされていることや、大胆な牡丹唐草文の流れなどから、前輪、居木、後輪、を下地を終了した段階で仮組みし、朱漆を使って筆で直接文様を書き込んでいったのではないかと考えられます。(図236、237)

おわりに

鞍には鞍橋の紀年銘が室町時代の資料でも加飾は桃山時代にされたものであるとの報告例⁴¹²¹があり、紀年銘と制作された年代は必ずしも一致しません。ケルン東洋美術館所蔵の「瓢箪蒔絵平文鞍」は御紹介したとうり居木裏に慶長18年(1613)の銘があります。それでは、この紀年銘は正しいのでしょうか。私の報告の中では文様について歴史的側面からは詳しくは触れませんでした。この鞍の加飾は、高麗末期から端を発した牡丹唐草紋が李朝時代に全盛を向かえ、日本に文様が流入、和洋化していく課程で蒔絵と併用して制作されたと例と考えると、時

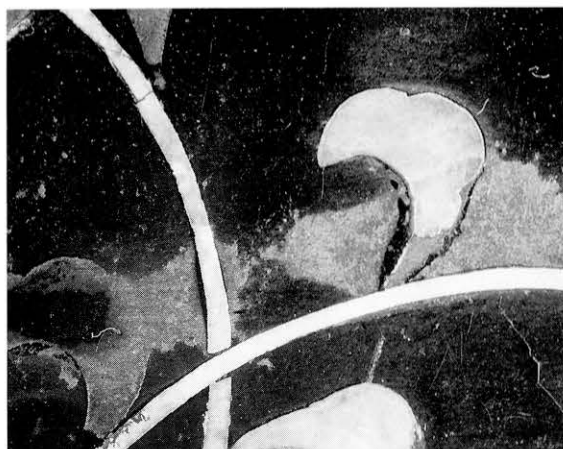


図238 螺鈿際の塗りと下地の露出
Urushi coating on the edges of the *raden* and exposure of the foundation (center of the left seat board)

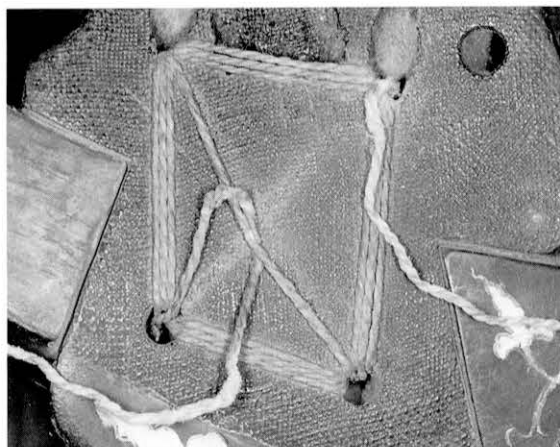


図241 鞍橋の解体
Disassembling of the main part of the saddle

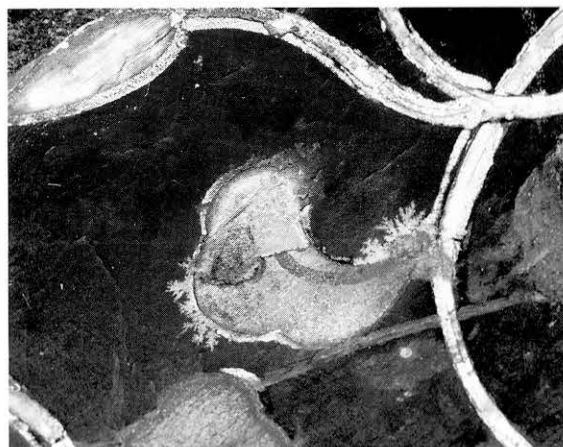


図239 銀平文下の墨書き線
Chinese ink lines under the silver *hyomon* (inner side of the hind bow)

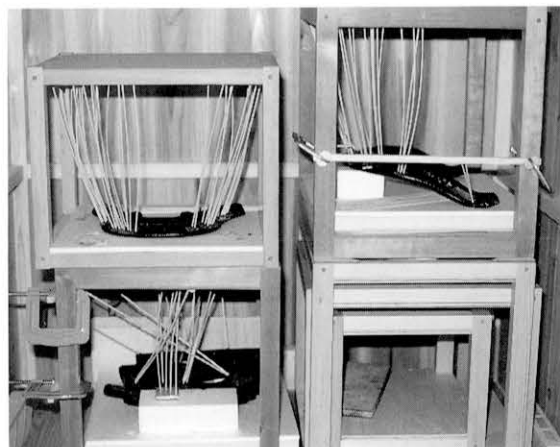


図242 しんばり台による圧着
Press-stabilizing with *shimabari* sticks



図240 上塗りと高蒔絵
Final coating and the *taka makie*

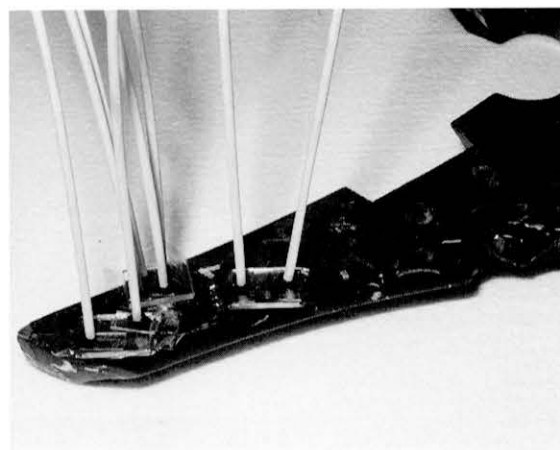


図243 銀平文の圧着
Press-stabilizing the silver *hyomon*

代的には遜色はありません。また、技法の上では下地に直接透き漆を塗り込んで仕上げる李朝螺鈿と同様の技法がみられることや、朱線による自由闊達な割り付け線があり桃山時代中心に行われた技法の特徴を有しているといえます。さらに、布着せ、下地、塗り、加飾の各層の素材と技法を詳しく調査した結果、下地、塗りともに違和感はなく、加飾がやり直されたという形跡は全くありませんでした。このことから、この鞍は慶長18年が制作年代と判断でき、時代を特定できる希少な遺例の一つであるといえます。今回の修復で新たな技法上の新知見を得る事が出来た事は、時代と技法を関係づける一つの基準になると考えられます。

輸出された工芸品の中には海外に渡ってから破損したり、漆の艶がなくなったという理由で海外で修理され、漆塗膜の上に塗料やワックスをかけられた例が数多くあります。昨年、この事業でわたしが修理を行ったドレスデン国立美術館所蔵「楼閣山水蒔絵花瓶」1対はその良い例で、蒔絵の上に塗料が厚くかけられており、塗料の劣化が進行して溶剤ではすでに除去できない状態にありました。その点、「瓢箪蒔絵平文鞍は」一部にワックスによる修理がありましたが、その他の部分では海外での修理は見受けられず、ある意味で良い状態にあったといえます。しかし、海外に渡る以前に入ったと考えられる日本の修理が蒔絵や螺鈿の上に厚く被り、文様を隠していたほどでした。よく日本の古い修理が海外の美術館関係者から批判の対象とされるのは全くもったもな事といえます。過去は過去として、私たちが現在行っている保存修復の考え方とその内容がいったいどのようなものであるのかを海外の方たち、日本国内の方たちに伝えていくのは修復に関係する私たちの責任であり、権利と考えます。このことから、国際貢献という目的を掲げて修復を行う在外日本古美術品保存修復協力事業という機会がどれほど大事であるのかは言うまでもありません。これからは、海外を含めより多くの人々と議論を重ね、修復についての意識を共有できるように努力をしてゆかなくてはならないと考えています。

最後に、修復にあたりX線透過撮影、蛍光X線分析等の労を取っていただいた東京国立文化財研究所の諸先生がたに感謝申し上げ私の報告とさせていただきます。

註1 ケルン美術館 Museum für Ostasiatische Kunst Universitätsstraße 100, 50674 köln Telefon 0221-94 05 18-0 Fax 0221-40 72 90

註2 慶長十八年1613年

註3 鞍橋（くらばね） 前輪（まえわ）後輪（しずわ）左右の居木（いぎ）で構成される。

註4 水干（すいかん） 宮廷奉仕の官人の平常着

註5 後世修理 制作以後現在まで既に行なわれた修理のこと

註6 斑 貝の真珠層と真珠層の間に出る線のこと、斑の様な文様となることがある。

註7 錆化（しゅうか） 銀がさびることで、色が黒く変化し、金属のねばりがなくなってしまう。

註8 鞍紐 前輪と居木、後輪と居木とを組みつなげている紐のこと。

註9 粘着力のある漆 澱粉質などの糊分を生漆に練り込んだねばりのある漆で、布着せなどに使用される。

註10 漆下地 地の粉や砥の粉に生漆を加えた下地のことで、膠下地、糊下地等と比較される。

註11 夜光貝 沖繩周辺に分布する貝で巻貝の一種。白色が強く上品な青味を呈する。平安時代を中心に用いられた。

註12 割り貝 1枚の貝を割らずして加飾する技法で韓国・李朝時代に多用された。

註13 4号 金粉（蒔絵粉）の粒子の大きさを、1号から数字が大きくなるにしたがい粒子が大きくなる。

註14 雁皮（がんび） ジンチョウゲ科の落葉低木、雁皮紙は樹皮の繊維で造った和紙のこと。丈夫で透明度が高い。

註15 花押（かおう） 一種の署名、実名の漢字の偏やつくりを組み合わせるなど模倣化したもの。

註16 漆固め 漆膜が劣化し出来た非常に細かい割れ（段文）部分や、蒔絵粉の間を溶剤で希釈した漆で補強する技法、摺漆とは異なり、表面には漆を残さない。

註17 膠（にかわ） 種類は膠を取る材料によって三千本膠、鹿膠等があるが、現在日本では牛膠が一般的である。

- 註18 麦漆（むぎうるし） 小麦粉を耳たぶ状に水練りし、生正味漆（日本産生漆）を加えた接着用の漆のこと
- 註19 生麩糊（しょうふのり） 小麦で麩を作るとき水底によどんだ粉をかわかしただもので、水と合わせ糊とし、数年間ねかせてから使用する。
- 註20 蛍光X線分析 X線を資料に照射し、そこから出てくる二次X線（特性X線）を測定し元素固有エネルギーから元素を特定する分析
- 註21 加飾の報告例 芦穂蒔絵鞍（東京国立博物館蔵）は居本裏に文安二 九月 日（1445）の銘があるが天正五年正月申ニ秀吉（1577）という添書のある鞍の下絵があることから、加飾が後からやり直されていることがわかる。
- 註22 楼閣山水蒔絵花瓶 木製・黒漆塗、蒔絵、高さ約65cmの大型の花瓶で、古伊万里の形状を模して作られたもの。1721年ザクセン侯フリードリヒ・アウグスト1世（1670～1733）の財産目録の初めに記載がある。

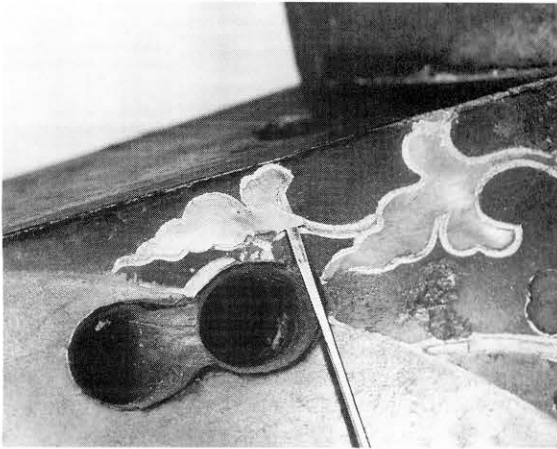


図244 金平文の圧着準備
Preparation before press-stabilizing the gold
hyomon

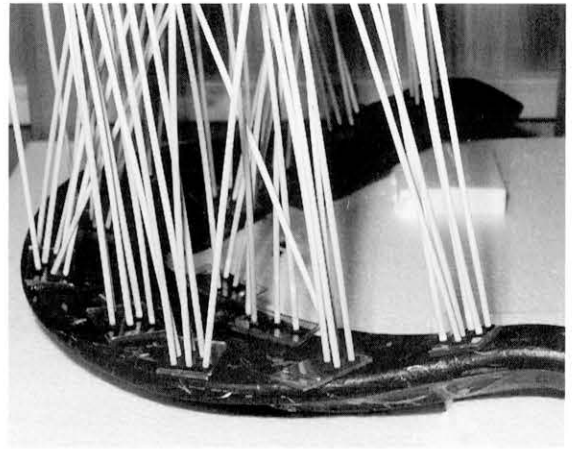


図246 後輪内側の圧着
Press-stabilizing the *raden* on the inner side of
the hind bow



図245 塗膜から突出した螺鈿の圧着準備
Preparation before press-stabilizing the *raden*
which had lifted from the neighboring urushi
coating surface



図247 高蒔絵の剝離部分と麦漆の含浸
Impregnating *mugi urushi* under the lifted layer
of *taka makie*

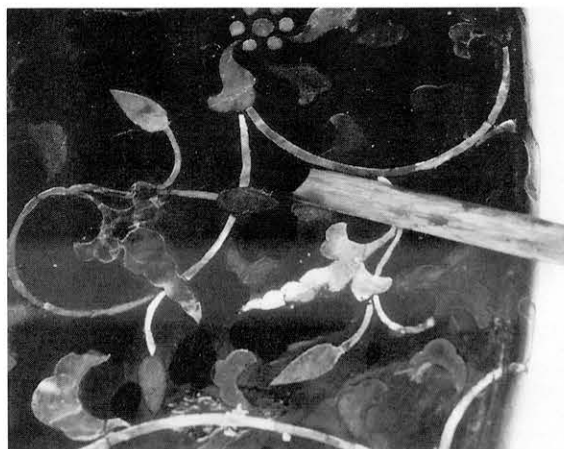


図248 塗膜剝離部分の麦漆の含浸
Impregnating *mugi urushi* into exfoliated part of the coating film

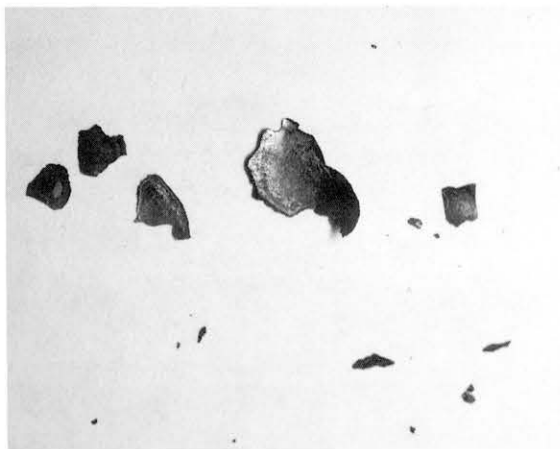


図249 搬入時に付属した銀平文剝落断片
Fragment of silver *hyomon*



図250 銀平文剝落断片の接着
Fixing a fragment of silver *hyomon*



図251 後輪内側左爪先部分 修理前
Inner side of the hind bow, tip of the left side (before restoration)



図252 後輪内側左爪先部分 修理後
Inner side of the hind bow, tip of the left side (after restoration)

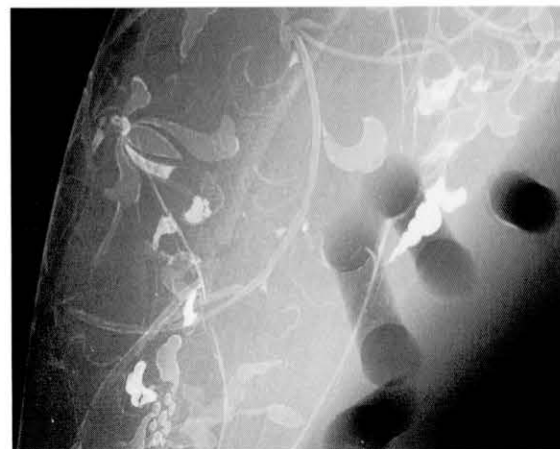


図253 前輪のX線透過写真
X-ray of the saddlebow

On the Restoration of “Hyotan Makie Hyomon Saddle” in the Collection of Museum für Öestasiatische Kunst, Köln

YAMASHITA Yoshihiko, Urushiware Conservator

Preface

The Project for Conservation of Works of Japanese Art in Foreign Collections, which was started by the Ministry of Foreign Affairs and the Agency for Cultural Affairs, has expanded its field of cooperation from 1997 to include urushi art objects besides traditional Japanese-style paintings. As a result, several objects have been restored so far in this newly added field. This paper presents a report on the restoration of “*Hyotan Makie Hyomon Saddle*” (saddle with gourd designs in *makie* and *hyomon*) in the collection of Museum für Öestasiatische Kunst¹⁾, Köln, Germany, which was conducted under the author’s charge over a period of two years from 1997 to 1998 at the studio of the Mejiro Urushi Institute of Research and Restoration in the Tokyo National Museum.

First, the object and its condition before restoration will be described and its distinctive features will be discussed. Then its restoration policy and specifications will be stated and the actual restoration work will be presented. Finally, reference will be made to the questions of *wagura* (also called *yamato-gura*, which means a Japanese-style saddle) and *kinen-meï* (inscription of a date) as well as to old urushiware exported from Japan and its restoration.

Description

“*Hyotan Makie Hyomon Saddle*” (Fig. 23) is a black-lacquered wooden saddle with *botan karakusa* (peony-arabesque) and *karahana* (Chinese flower) patterns all over the surface in *raden*, which is made of *awabi* (abalone) shell pieces of medium to large thickness, and in *hyomon*, which is made of gold and silver foil pieces. The *raden* decorations are rimmed with a gold *makie* outline. Five neck-bent *hyotan* (gourd) designs are depicted in *usuniku taka makie* with golden and silver gourds arranged alternately on the exterior faces of the saddlebow and the hind bow. The saddlebow, hind bow, and seat boards are securely joined together with hemp cords. On the back surface of the seat board on the left as we face it with the back of the saddlebow upside, there is an inscription of a date reading “(illegible) day of June in the 18th year of the Keicho era,²⁾ winter of the year of the ox.” There is also an inscription of *kao* (designed monogram of a signature) and a brand in the center of the back surface of the right seat board (Fig. 5, 24, 230 & 231).

The peony-arabesque pattern, the distinctive marks of which can be seen

everywhere in its design, is drawn in a very realistic style. The vine-like stems are intercrossed here and there, and a seed leaf is designed together with a circle where a stem bifurcates. There is a peony flower at each of the rolled ends of the stems, while there are leaves and buds at the ends of leafstalks. Each peony flower has six bilaterally symmetrical petals around its apricot-stone-shaped center with a calyx at its joint. The Chinese flower pattern, on the other hand, has six twisted petals around its center consisting of seven small circles.

The *kurabone*³⁾, or the main body of a saddle, can be classified into several groups, depending on the age of production. The *kurabone* of this saddle is a type which has a saddlebow and a hind bow respectively with two sections on the exterior face (the upper or inner section called "*umi*" and the lower or outer section "*iso*") and is equipped with right and left handgrips that are gouged out on the periphery of the saddlebow. Judging from the distinctive features of its shape, we can say that it is affiliated with the *suikan-gura* type⁴⁾ which appeared in the late Muromachi Period (late 15th to mid-16th century) and that it is a typical one among the early modern general-purpose saddles which continued to be used up until the end of the Edo Period (1867). What is most distinctive of this saddle is the curve of the slope from the top to the lower tips of the hind bow as seen from its side. The hind bow of the saddle curves gradually from the shoulder to the tip on both the right and left, thereby making its shape look not so three-dimensional, and the substrates of its main parts are thin. The slopes of both the saddlebow and the hind bow are gentle in curve, and their tips are rounded. It is fragile as a whole with a narrow seat, compared with those saddles which were actually used in battles in the Kamakura (1192-1333) and Muromachi (1338-1573) Periods. The saddle, as such, is not suited for hard use.

Condition of the Saddle before Restoration

When the saddle was unpacked after it was shipped to us, it was dust-covered and soiled and, in fact, all kinds of damage usually incidental to urushiware—such as deterioration, breakage, cracks, separation and exfoliation of urushi coatings, scratchings, and insect damage—were observed on it. Figure 232 showing the joint of the saddlebow and the right seat board well illustrates how the entire object was damaged. As is often the case with other saddles, the substrate of the seat boards were chipped and lost around their joints. There were scratchings around the handgrips and the foundation layer was exposed. The urushi coating had lost its luster due to small cracks that developed on the surface as it deteriorated. Deterioration of the top urushi coating had proceeded to the extent that the foundation layer could be seen through the top coating along the edges of the seat boards. In addition, the urushi surface was damaged and soiled with white deposits. The *raden* and *hyomon* decorations were considerably separated from the foundation on all

their areas. Especially the *hyomon* had collapsed from rusting, and many of its silver foil pieces had fallen off (Fig. 233). The saddle was shipped to us in a box, which was made in Germany, to protect the object during its transport to Japan, and we found four exfoliated pieces of *raden* and five large exfoliated pieces of *hyomon* in the cushioning material that protected the tips of the saddlebow and the hind bow in the box.

The gourd design in *makie* in the center of the saddlebow had exfoliated. As a result, the lower urushi layer was exposed. When the substrate was repaired in past treatments⁵⁾, the foundation material then used had covered parts of the *raden* surfaces on both ends of the seat boards, thereby making it difficult to recognize the original designs.

When a portion of the peony-arabesque pattern was magnified, it was clearly visible that the silver *hyomon* decoration had rusted and spread into the neighboring urushi coating. It was also found that some shell pieces used in the *raden* had been split along their shell streaks⁶⁾ and separated from the foundation (Fig. 233).

The distinctive features of damage to this saddle can roughly be summarized into the following three points.

1. The *raden* decoration had separated from its foundation on its almost entire area due to the shrinkage of the substrate and/or the deterioration of the shell pieces or the adhesive. Some shell pieces had lifted out of the urushi coating surface in certain areas where the *raden* was naturally in a very unstable condition.
2. The *hyomon* decoration was greatly damaged, and most of it had fallen off and was lost. The silver *hyomon* had separated from the foundation and lifted up while at the same time it had rusted.⁷⁾ Consequently, it was in a critical condition. The gold *hyomon*, on the other hand, had separated from the foundation and become distorted.
3. Coating and foundation were applied at various places on the saddle in past treatments, and their splashes spotted the neighboring *makie* surface or *raden* shell pieces. Especially the areas around the tips of the saddlebow and the hind bow had been thickly applied with foundation, and a thick layer of its residue remained on the *raden* and *hyomon* decorations. Besides, part of the *raden* had been repaired with wax.

Restoration Specifications

The restoration policy was determined after consultations among the owner of the object (Museum für Östasiatische Kunst), the Agency for Cultural Affairs, Tokyo National Research Institute of Cultural Properties, and the conservator in charge. The fundamental idea was to make conservation treatments of the object with a view to maintaining its existing state, as in the cases of designated cultural properties. For conservation, we considered it essential to use materials that are as

identical in quality with those of the saddle as possible. Before starting the actual restoration work, therefore, we investigated the materials of the substrate, foundation, urushi coating, *raden*, *hyomon* and *makie* as well as the techniques used therein. We also studied the features of damage to the materials and determined the restoration process to be taken for the object. To be concrete, the actual restoration process can be summarized as follows:

- Saddle cords⁸⁾ were temporarily removed to restore the saddlebow, hind bow, and right and left seat boards separately. After their restoration was over, they were joined together again with new cords.
- Missing parts in the *raden* and *hyomon* were not reconstructed, while the broken and lost spots of the substrate were rebuilt only for the limited purpose of restoring the substrate to its original shape.
- Coatings of urushi that had been applied in past treatments were left untouched, but the wax was removed. Splashes of foundation that remained on the surface were removed, but not excessively in view of the deterioration of the original urushi coating and *makie* decoration.

Analysis of the Techniques

The selection of materials to be used for restoration is a very important problem. In the author's opinion, we, as a general rule, should use materials that are as identical with those of the object concerned as possible, although the application of this principle depends on the actual case. There are two reasons. The first reason is that the use of materials different from the original ones inevitably leads to a change in the expression of the object. For example, if we use urushi to restore shell pieces that were glued, the shell pieces turn from their original whitish color to blue, because the urushi penetrates underneath the semitransparent shell pieces. The second reason is that the use of such materials results in concealing the historical significance of the techniques used for the object. If the technique is understood as something that entails historical changes, it follows that the use of materials different from the original ones may become an act of altering a historical fact. On the other hand, however, in parallel with cases where it is possible to use the same or nearly the same materials as the original ones, there are in fact also cases where it is not possible to use such materials because the techniques of making things and restoring them are different. At any rate, it is very important to analyze and record the techniques employed in the object when it is restored and to make full use of the obtained results for the actual restoration work.

Before starting restoration work, we investigated the raw materials and techniques of all the parts of the saddle from the substrate to the top coating. The substrates of the saddlebow and the hind bow are made of forked branches of cherry trees which had been selected for their shape. The seat boards are made of light and

flexible substrates. The entire surface except the undersides of the saddlebow and hind bow and the joints is covered with hemp cloth by using adhesive urushi.⁹⁾ When a portion of such a surface is magnified, we can see that the urushi is caught between the threads of the cloth. Some portions of the surface of the joint between the saddlebow and the seat boards are worn out with use, and they provide good spots for us to observe closely all the layers from the glued hemp cloth to the top coating. Rough urushi foundation¹⁰⁾ and fine urushi foundation are applied in three layers respectively on the glued hemp cloth. They are then coated with urushi, and still another layer of fine urushi foundation is used as the final ground layer to put the middle and top coatings of translucent urushi thereon (Fig. 234).

In the areas where shell pieces had fallen off, we see that the missing outlines of the designs were drawn with a brush in *shu urushi* directly on the underlying foundation layer after it was ground and polished. The shell pieces were then glued directly thereon. The adhesive used for gluing is not urushi and is considered to be animal glue or starch glue (Fig. 235). Outlines drawn in *shu urushi* can be seen elsewhere too, and the designs were changed in certain areas after they were drawn once. Several kinds of shells are used for *raden*; usually in Japan *yakogai*¹¹⁾ and abalone are used. As shown in Figure 233, since the *raden* of this saddle, when exposed to light, appears deep in color with stripes seen on the portions that reflect light and that do not, it is clear that abalone shells are used.

There are two methods to obtain shell pieces from raw shells: one to cut off shell pieces with a saw and then to rub smaller pieces off as required with a whetstone (called the *surigai* method or the method of rubbing off shell pieces), and the other to boil cut-off shell pieces for a long time in seawater and then to tear smaller pieces off as required (called the *nigai* method or the method of boiling shell pieces). In the latter method, the nacreous layers of shells are torn off, so shell pieces thus obtained have no spots or streaks. From this, it can be concluded that the *raden* decoration of this saddle is made of abalone shell pieces obtained by rubbing them off with a whetstone. They are of middle thickness, measuring about 0.2mm thick. Since they were rubbed with a whetstone after having been glued, they must have been originally a little thicker.

Each *raden* pattern is basically made of pieces of a shell that were cut and combined together properly, without using broken shell pieces.¹²⁾ At each of the spots where the vine divides into a leaf and a bud, like the letter Y at its end, a piece that was carefully cut from a single shell is used although it is no more than one millimeter in width. There are, however, exceptions, which are found at the sharply rounded parts of the edges of the seat boards, where broken pieces of a shell are glued.

The surface of the seat boards was worn with use, thereby making the urushi coating thin and the surrounding areas of the inlaid shell pieces exposed. Since

urushi splashes remained on the edges of the shell pieces, it can be inferred that the urushi was applied after the shell pieces were glued. After urushi foundation was applied to fill up the difference in surface level between the inlaid shell pieces and the surrounding areas, the surface of the applied foundation layer and the shell pieces was leveled and smoothed by using an abrasive before applying a top coating of *suki urushi* thereon (Fig. 238).

The silver and gold foil pieces of the *hyomon* decoration were glued in the designs drawn with Chinese ink on the leveled and smoothed surface. It can be considered that it was necessary to draw the outlines of the design again since more than half of the outlines originally drawn with *shu urushi* became hidden by the newly applied foundation layer. The silver *hyomon* had expanded due to rusting, and its exact thickness could not be measured. The gold *hyomon*, on the other hand, was 0.04mm in thickness, which suggests that the thickness of the silver *hyomon* was originally the same as that of the gold one (Fig. 239). When the adhesive remaining at exfoliated spots was magnified, white particles were observed along with lines that suggest that adhesive had been applied with a brush. From this observation, we concluded that a starchy material had been used to glue the silver and gold foil pieces. The medium and top coatings of *suki urushi* that were applied on the entire surface were finished by polishing, and at that time urushi splashes on the shell pieces were scraped off with a bamboo spatula or some other similar tool. The gourd designs in *makie* were raised with *suki urushi*, and their surface was thinly coated with urushi after the *suki urushi* dried. Finally gold and silver powder was sprinkled thereon as finishing touches. *E-urushi* was used as *shitatsuki urushi*, or the urushi used to draw the *makie* designs, when sprinkling gold powder, while *suki urushi* was used for silver powder. When the gold and silver powder was magnified, it was observed that the golden gourds were decorated only with gold powder of No. 4 size¹³⁾, while the silver gourds were sprinkled with both gold and silver powder. Since the silver powder particles crumbled owing to rusting, their size is not clearly distinguishable. They are mixed with gold powder particles that are mainly No. 5 in size. This suggests that the silver gourds originally were not simply silver but light beige—a color truer to life. *E-urushi* used to draw the golden outlines around the *raden* designs contain more of the pigment (i.e. red iron oxide) and is also coarser in particle size than that used for the gourd designs. This means those outlines had been drawn to close the gap in surface level from the shell pieces.

The organization of all the layers from the substrate to the *makie* is illustrated on the basis of the investigation results thus obtained (Fig. 254). It shows well how each of the layers is organized. Exfoliation was found at spots designated by the triangle mark, and restoration work was carried out in order from the top layer down to the substrate by reinforcing the material of each layer or treating the spots that had become separated or peeled off.

Actual Restoration Process

First, the saddle was protected. The *raden* and *hyomon* that were in danger of exfoliation were glued with small pieces of *gampi*¹⁴⁾ paper by using starch so that they would not fall off during the work. Next, the saddle was turned upside down to disassemble its main parts. At the four corners of the downside of the joined seat boards were found cords that had been passed three times to form small rectangular shapes. It has been a usual practice to replace the cords with new ones when their binding gets loose, and the staff member in charge at the Agency for Cultural Affairs was of the opinion that the cords of this saddle were not the original ones. Taking this into consideration, we decided to remove the cords temporarily for restoration work. It was difficult to untie the cords that securely joined the main parts of the saddle together. However, we, carefully untied the knots of each of the cords one by one, beginning with the last knot, without cutting the cords, and recorded how the cords had been passed and knotted (Fig. 241). We made test plates to ascertain whether the recording was correct and, as a result, discovered that on the reverse side the cords had been passed six times on the two long sides of the rectangle only in the direction of its knots. When the cords were removed, it was found that there were several dents under those cords on the downside of the seat boards, which suggests that the cords had been tightened with a spatula. When the seat boards were disassembled, it was found that dirt and dust had accumulated at their joints with the saddlebow and hind bow in the long course of time. A designed monogram of signature called *kao*¹⁵⁾ and a brand were also found at each of those joints.

After the dirt and dust were swept off with a feather brush, the saddle was cleaned. Stains on the surface of the *urushi* coating were wiped off with worn-out cotton cloth moistened with a small amount of water, taking care not to touch the *raden* and silver *hyomon* decorations that had collapsed due to rusting and/or had become separated from the foundation. Next, a process called *urushi gatame*¹⁶⁾ was carried out to reinforce the *urushi* coating on which narrow lines of cracks on its surface had developed due to deterioration. In view of the top coating of *suki urushi*, the *urushi* used in this process was made by mixing *suki urushi* with raw *urushi* (to be exact, *kijomi urushi*, i.e. raw *urushi* obtained by filtering *hatsu urushi* or raw *urushi* collected from June to the end of July) and then diluting the mixture with a petroleum solvent. The mixture was then lightly spread on the surface, and excessive *urushi* on the surface other than on the cracks was thoroughly wiped off by using ligroin. The *makie* surface was also consolidated in the same way as the *urushi* coating surface to reinforce the *makie* powder that was likely to fall off due to deterioration. Then its surface was fully dried.

The metal foil pieces in the *hyomon* decoration had been glued with a starchy

adhesive, and we considered it desirable to use the same or a similar adhesive in restoration work. It, however, was not feasible to impregnate starch through the openings caused by the separation of metal foil pieces, and we were forced to select another adhesive in restoration work. The possible candidates were animal glue and urushi. The former requires repeated cycles of wiping off the excess by using water after it has been impregnated. Given the condition of the silver *hyomon*, it was expected that there would be some openings left even after the separated silver foil pieces had been glued. For these two reasons we used *mugi urushi* to press and stabilize the *hyomon* decoration. After accelerating its viscosity, *mugi urushi* was diluted with ligroin and impregnated under the separated *hyomon* layer, and its residual on the *hyomon* surface was completely wiped off. Those spots of the silver *hyomon* designs which had lifted out of the surface were covered with Saran Wrap, a vinyl board, and a plastic board as barrier layers, and they were then pressed down at proper points with *shimbari* sticks (wooden or bamboo sticks) and their wooden stand (called *shimbari-dai*) (Fig. 243). The gold *hyomon* surface was also pressed down in basically the same way. Its surface had become lifted and swollen out, so some portions of the gold *hyomon* layer were removed with a needle whose point was flattened before its surface was pressed and stabilized in the same way as the silver *hyomon* (Fig. 244).

In view of the fact that urushi had not been used to glue the shell pieces of the *raden* decoration, we decided to use animal glue¹⁷⁾ to stick the shell pieces securely and selected small, round-shaped animal glue, which is made from cow hide and has high adhesiveness. The animal glue was boiled in hot water after it was left soaking in water overnight. After adjusting it to a proper degree of concentration, a small amount of ethanol was added to it before impregnating it under the lifted spots of the *raden*. Excessive glue residue was wiped off with warm water, and then the *raden* surface was pressed down in the same way as the *hyomon*. The areas where the shrinkage of the substrate caused shell pieces to protrude and become separated from the foundation together with the neighboring urushi coating were first covered with a plastic sheet that was cut into the shapes of those shell pieces and then pressed down after the neighboring urushi coating areas were stabilized with glue (Fig. 245). Since the saddle is complicated in shape and pressure is applied on the saddle when the *raden* surface is pressed down, it was protected with a styrol board when the separated or lifted shell pieces on the entire exterior surface of the saddle were treated by press-stabilizing them (Fig. 246).

After the shell pieces became stabilized, *mugi urushi*¹⁸⁾ that was prepared as an adhesive was impregnated under the separated or lifted spots of the urushi coating and the *taka makie* with a brush or a bamboo spatula, and then their surface was pressed and stabilized (Figs. 247 & 248). The golden lines along the edges of the shell pieces were also stabilized by using the same type of *mugi urushi*.

Next, the *hyomon* and *raden* pieces that had fallen off during transport and remained in the packing material were checked and glued to their original positions. Through this process it was found that some of those pieces had fallen off from one and the same *hyomon* design, although the *hyomon* layer had collapsed all over its area. The broken and lost spots on the substrates were filled with *kokuso*, an urushi filler that is prepared by kneading hemp fiber powder and pine sawdust into *mugi urushi*. To consolidate their surface, they were then coated with black *sabi*—a fine foundation material that is made by kneading yellow *tonoko* with water and adding *roiro urushi* therein. A small amount of black *sabi* was also applied to the edges of the separated neighboring urushi coating areas to prevent those *hyomon* and *raden* pieces from falling off again.

It was hard for us to decide whether to remove the foundation layer applied in past treatments performed on various parts of the saddle. We finally decided to remove it because its splashes remained on the surfaces of urushi and *raden*, thereby distorting their designs. But, in view of the fact that the urushi coating and *raden* decorations were both in dangerous condition because of deterioration, we restricted ourselves to removing only the necessary minimum. The urushi foundation applied in past treatments was too hard to be loosened just by soaking it with cold or tepid water. We, therefore, used a chisel with its cutting edge rounded off blunt and removed the foundation as if peeling it off. When the foundation in question was all removed, the *raden* and *makie* designs hidden under the treatments became visible in their original entirety as before. As the last step, the urushi coating surface was consolidated once more (Figs. 250 & 251).

We considered that the first requirement of the new saddle cords was for them to be free from injuring the saddle. For this reason we selected leather cords and not hemp cords, and asked Mr. Ozawa Masami, a conservator specializing in arms and armor, to make leather cords for this saddle. The material was selected from the central part of the back of deerskin, which was cut vertically and dyed dark blue. The cords were fixed with raw wheat gluten starch¹⁹⁾ at certain spots. Thus all the process of restoration work was completed (Figs. 25, 26 & 252).

Other Analyses

Fluorescent X-ray spectroscopy²⁰⁾ of the *hyomon* pieces that had fallen during transport was conducted in parallel with the restoration work. We asked Mr. Hayakawa Yasuhiro of the Tokyo National Research Institute of Cultural Properties to take charge of this analysis. The fallen silver *hyomon* pieces showed least progress of rusting on their reverse side (adhesive side), and as a result of spectroscopic analysis of samples taken from their reverse side, it was found that the rusted silver *hyomon* pieces were composed of silver and copper, of which the former occupied the majority of composition.

Mr. Nokubo Masayoshi of the Tokyo National Research Institute of Cultural Properties took charge of taking X-ray radiography which revealed that the substrates were covered with hemp cloth in all the urushi coating areas. The gold and silver *hyomon* designs in the photographs were compared with those actually seen on the saddle. As a result, it was found that slight portions of the gold *hyomon* designs were hidden under the *makie* lines (Fig. 253). That is probably because those portions of the gold *hyomon* designs remained under the *makie* lines when the majority became separated from the lower layers and fell off as if torn off. In the areas where the *hyomon* designs had fallen and no portions of them remained, it was confirmed that silver rust clinging to the surrounding urushi coating was part of the silver *hyomon* designs. *Hyomon* and *raden* were distinguished upon the criterion that their foundation layers are different from each other. On the basis of these investigation results, their designs were reproduced and distinguished by color. As a result, it was found that the gold *hyomon* designs had been drawn considerably close to each other on the inner section of the exterior face of the saddlebow, and it can be inferred that the saddle had originally been brilliant with many gold *hyomon* decorations all over the surface.

All the designs were reproduced to ascertain the flow of the peony-arabesque patterns. As a result, it was found that the stems starting from the back of a gourd on the exterior face of the saddlebow go toward the tips of the right and left legs in clock wise and counterclock wise turns, and extend to the interior side without interruptions, turning at the tips of the legs. It was also found that the above-mentioned stems further extend from the centers of the right and left legs of the saddlebow to the outer section of the two seat boards respectively until, in the central part of the seat boards, they obliquely intersect the other stems extending from the interior side of the hind bow to the inner section of the seat boards in a similar way. Judging from the fact that the gourd designs are drawn not only in the *umi* and *iso* sections of the saddlebow but on the sides of the saddlebow and hind bow as well and that the flow of the peony-arabesque patterns are boldly composed, it can be inferred that those designs were drawn with *shu urushi* directly on the saddlebow, seat boards, and hind bow that were temporarily joined together after the foundation was applied (Figs. 236 & 237).

Concluding Remarks

It has been reported that there is an example of a saddle²¹⁾ which bears an inscription of the Muromachi Period (1338-1573) but which was actually decorated in the Momoyama Period (late 16th century). Thus the inscription of date and the actual year of production do not always agree. The "*Hyotan Makie Hyomon Saddle*" in the collection of Museum für Östasiatische Kunst, Köln, has an inscription of the "18th year of the Keicho era" (1613) on the back of one seat board, as mentioned

earlier. Is this inscription of year correct? In this report, the historical aspects of the designs were not discussed in detail, but if this saddle is taken to be an example that combines the peony-arabesque pattern with the *makie* technique in the so-called Japanization process of this pattern after it was introduced into Japan, following its invention in the last years of the Koryo dynasty (918-1392) and its highest stage of prosperity in the Yi dynasty (1392-1910), the inscribed year is in agreement with its age. From a technical aspect, the same technique as the Yi dynasty technique of applying *suki urushi* onto the foundation as a finishing touch is seen on the object, as are outlines drawn in vermilion. These factors are characteristic of techniques that prevailed mainly in the Momoyama Period. In addition, the materials and techniques of all the layers including the glued hemp cloth, foundation, urushi coating and decorations were investigated in detail, and there was nothing different or unusual in the foundation and urushi coating, nor was there any trace of the decorations having been remade. For all these reasons, it can be concluded that this saddle was really made in 1613 as its inscription shows. Thus this object is a rare example whose exact age can be traced back to. The information and knowledge obtained through this restoration project are considered to become a criterion for correlating the age and the technique in the future.

Among the exported Japanese objects of craftwork, there are many examples that have been repaired in foreign countries by applying paint, varnish or wax on the urushi coating which had been damaged or whose surface had lost luster. The “*Rokaku-sansui Makie Vases*”²²⁾ (a pair of vases with a design of landscape and pavilion) in the collection of the National Museum of Art in Dresden, Germany, which was also restored under the author’s charge in 1998 under this Project, is a case in point. A thin layer of paint had been applied on the *makie* surface, and it was impossible to remove the added layer with a solvent because of the progress of deterioration of the paint. In that respect, the “*Hyotan Makie Hyomon Saddle*” was in a better state since it had not been repaired abroad except in some areas that had been repaired with wax. However, the treatment of its *makie* and *raden* decorations, which is considered to have been made in Japan before the saddle was exported, left a thick layer of coating on their surface to the extent that some of their designs was hidden. It stands to reason that old treatments in Japan are often criticized by art people in foreign countries. The author thinks it is an obligation and also a right for us, the conservators in Japan, to convey to people both at home and abroad what we now think about restoration, confronting what it was like in the past, and what work we are actually doing. From this point of view, it is needless to say what an important opportunity the Project for Conservation of Works of Japanese Art in Foreign Collections is for us in making international contributions. The author thinks that there should be opportunities for discussion with more people, including those from foreign countries, in an effort to share opinions about conservation and

restoration with them.

Before closing the report, the author would like to express his gratitude to the researchers at the Tokyo National Research Institute of Cultural Properties for their kind cooperation with X-ray radiography, fluorescent X-ray spectroscopy and other analyses.

Notes:

1. Museum für Öestasiatische Kunst, Universitätsstrasse 100, 50674 Köln, Germany.
Phone: 0221-94 05 18-0, Fax: 0221-40 72 90
2. 18th year of the Keicho era: 1613 in the Christian Era
3. *Kurabone* (main part of the saddle) consists of the saddlebow (*maewa*), hind bow (*shizuwa*), and right and left seat boards (*igi*).
4. *Suikan-gura*: Saddles used when warriors wore an abbreviated informal dress called *suikan*.
5. Past treatments: Treatments that have been made so far since the saddle was created
6. Lines between the nacreous layers on the inside surfaces of shells sometimes combine to form a spotted or streaked design.
7. Rusting of silver foil pieces causes them to turn dark and lose the tenacity peculiar to metal.
8. Saddle cords: Cords that are used to fasten the saddlebow and the hind bow to the seat boards.
9. Adhesive urushi: Urushi that is made by kneading starch and other similar glue into raw urushi. It is used, among others, to glue hemp cloth to the wooden substrate.
10. Urushi foundation used for the final ground layer. It is made by adding raw urushi to *jinoko* (natural earth powder) or *tonoko* (pulverized clay finer in texture than *jinoko*) and is compared with *nikawa shilaji* (glue foundation) and *noru shilaji* (starch foundation).
11. *Yakogai*: A species of spiral-shaped shell fish that ranges around Okinawa and displays refined bluish tints with a conspicuously fair texture. It was widely used mainly in the Heian Period (794-1185).
12. Broken shell pieces (*warigai*): A technique of decoration using broken pieces of a shell, which used to be frequently employed in the Yi dynasty in Korea.
13. No. 4 size: Size of gold *makie* powder. The powder particle becomes larger as the number increases.
14. *Gampi*: A deciduous shrub of the daphne family. *Gampi-shi* or *gampi* paper is a traditional Japanese paper hand-made from fibers of its bark. It is tough and considerably transparent.

15. *Kao*: A kind of signature using a beautifully designed monogram, which was made by combining parts of the characters of one's name.
16. *Urushi gatame*: A technique of filling very small cracks (*danmon*) caused on old urushi surface due to its deterioration and spaces between *makie* powder particles with urushi that is diluted with a solvent so that the surface will be consolidated. Unlike *suri urushi*, this technique leaves no trace of treatments by urushi.
17. Animal glue: There are various types of animal glue made from different materials, such as *sanzenbon* glue and deer glue. In Japan today, cow glue is most popular.
18. *Mugi-urushi*: Urushi that is prepared as an adhesive by mixing *kijomi urushi* (Japanese raw urushi) into wheat flour that has been kneaded with water into

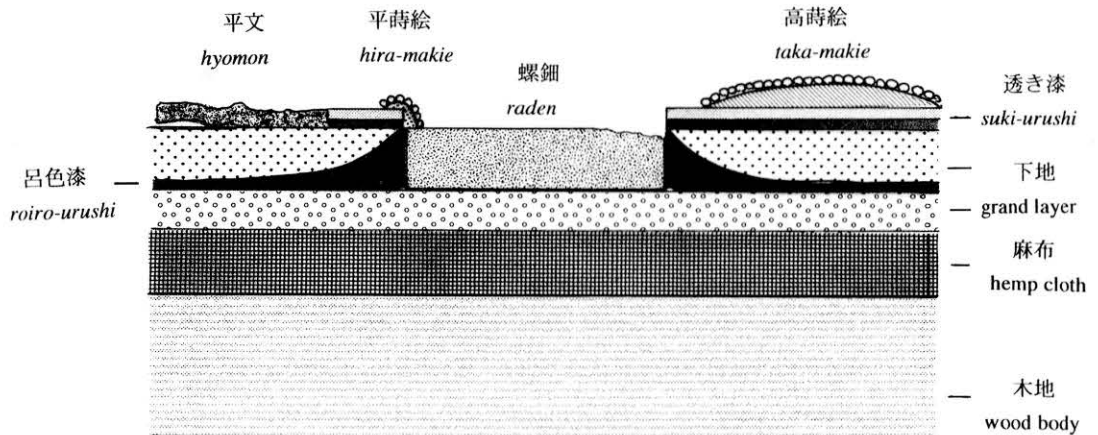


図254 鞍の断面構造図
The organization of all the layers

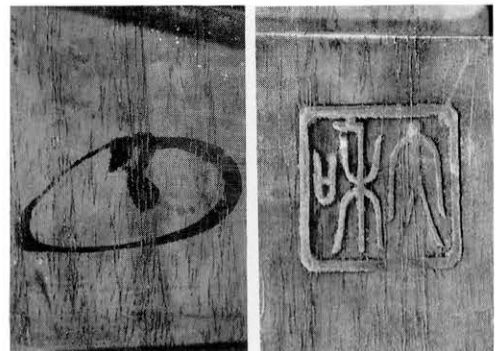


図255 花押と焼印
Kaō (designed monogram of signature)
a brand

a dough.

19. Raw wheat gluten starch (*shofu nori*): Powder deposits in the water when starch is washed out of wheat flour to make bread-like pieces of wheat gluten called *fullt* is mixed with water to make glue. It is left untouched for several years before use.
20. Fluorescent X-ray spectroscopy: A process of analysis by which secondary X-rays (characteristic X-rays) emitted from an object when it is irradiated with X-rays are measured to identify the elements from their intrinsic energies.
21. Reported example: "*Ashiho Makie Saddle*" in the collection of the Tokyo National Museum has an inscription of "(illegible) day of September, second year of the Bun'an era" (1445) on the back of the seat boards. In its rough sketch, however, there is a note reading "Hideyoshi in the first month of the Tensho era" (1577), which means the saddle was decorated again later.
22. "*Rokaku-sansui Makie Vases*": Black-lacquered, wooden vases with a design in *makie*. Large vases measuring about 65 cm in height. They are modeled after a shape of an old Imari porcelain (*Ko-Imari*) and listed at the beginning of the inventory of assets of the Saxony King Friedrich Augusto I (1670-1733).